

CLAIMS

We claim:

1. A curable coating composition comprising
 - (A) a polymer resin comprising active hydrogen-containing functional group other than carbamate,
 - (B) a curing agent having groups that are reactive with said functional groups on (A), and
 - (C) a reactive additive comprising at least one compound having a molecular weight of from 131 to 2000 and comprising at least one primary carbamate group and at least one alkyl group selected from the group consisting of branched alkyl groups of from 5 to 30 carbons, straight chain alkyl groups of more than 10 carbons, and mixtures thereof, wherein one or both of (A) and (B) comprise groups that are reactive with the primary carbamate group of (C).
- 15 2. The curable coating composition of claim 1 wherein the at least one alkyl group of reactive additive (C) is free of functional groups reactive with one or more of components (A) and (B).
- 20 3. The curable coating composition of claim 1 wherein the at least one alkyl group is free of unsaturation.
4. The curable coating composition of claim 1 wherein the reactive additive additive (C) has only one carbamate group.
- 25 5. The curable coating composition of claim 1 wherein the at least one alkyl group is a branched alkyl group of from 8 to 12 carbons.
6. The curable coating composition of claim 5 wherein the at least one alkyl group is a branched alkyl group of at least 10 carbons.
- 30 7. A curable coating composition comprising

(A) a polymer resin comprising active hydrogen-containing functional group other than carbamate,

(B) a curing agent having groups that are reactive with said functional groups on (A), and

5 (C) a reactive additive comprising at least one compound having a molecular weight of from 131 to 2000 and having the formula:



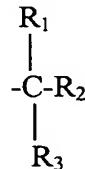
wherein X is a branched alkyl group of from 5 to 30 carbons, and one or both of (A) and (B) comprise groups that are reactive with the primary carbamate group of (C).

15 8. The curable coating composition of claim 7 wherein the at least one alkyl group of reactive additive (C) is free of functional groups reactive with one or more of components (A) and (B).

9. The curable coating composition of claim 7 wherein the at least one alkyl group is
20 free of unsaturation.

10. The curable coating composition of claim 7 wherein the reactive additive (C) has only one carbamate group.

25 11. The curable coating composition of claim 7 wherein X is



wherein R₁, R₂, and R₃ are alkyl groups of from 1 to 10 carbons each.

12. The curable coating composition of claim 11 wherein R₁, R₂, and R₃ total from 8 to 12 carbons with at least one of R₁, R₂, and R₃ being a methyl group.

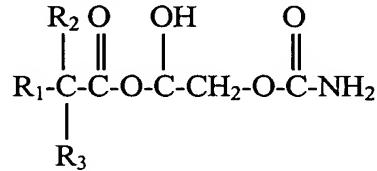
13. The curable coating composition of claim 11 wherein one of R₁, R₂, and R₃ is hydrogen.

5 14. A curable coating composition comprising

(A) a polymer resin comprising active hydrogen-containing functional group other than carbamate,

(B) a curing agent having groups that are reactive with said functional groups on (A), and

10 (C) a reactive additive comprising at least one compound having a molecular weight of from 131 to 2000 and having the formula:



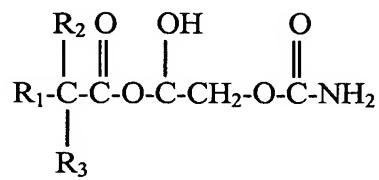
15 wherein R₁, R₂, and R₃ are each alkyl groups of from 1 to 10 carbons, and one or both of (A) and (B) comprise groups that are reactive with the primary carbamate group of (C).

20 15. The curable coating composition of claim 14 wherein R₁, R₂, and R₃ total from 8 to 12 carbons with at least one of R₁, R₂, and R₃ being a methyl group.

25 16. A method of making a carbamate functional reactive additive comprising providing a compound comprising at least one epoxy group and at least one branched alkyl group of from 5 to 30 carbon atoms, reacting said compound with carbon dioxide so as to produce a carbonate functional compound, and reacting said carbonate functional compound with ammonia so as to produce a 30 carbamate functional reactive additive.

17. A reactive additive for a coating composition comprising one or more compounds having the formula:

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wherein R_1 , R_2 , and R_3 are each alkyl groups of from 1 to 10 carbons.